

Amendment
Serial No. 09/988,272
Attorney Docket No. 981206A

REMARKS

Claims 12-25 are pending. New claim 25 is added.

Claims 12, 13, 22 and 24 were rejected under 35 USC §103(a) as being unpatentable over Tsoi et al in view of Kinzer. The Examiner acknowledges that Tsoi et al. fails to teach etching back said third insulating film and forming a recess so as to penetrate the impurity region of at the same time. Kinzer is applied by the Examiner for allegedly rendering this feature obvious. We suggest traversing the rejection. This rejection is respectfully traversed.

The language at issue in claim 12 is reproduced below since the Examiner appears to mischaracterize the language:

etching back said third insulating film to form a side wall insulator of said third insulating film, by maintaining said third insulating film selectively on sidewalls of said gate insulating film, said gate electrode and said second insulating film and at the same time form a recess so as to penetrate the impurity region, thereby forming a source region of the impurity region.

The Examiner considers the spacer layer 56 of Tsoi et al. as corresponding to the claimed third insulating film. Tsoi et al. teaches that spacer layer 56 is etched to form spacers 58. During this etching step, however, a recess is not formed so as to penetrate the impurity region (see Fig. 9). Instead, Tsoi et al. teaches the additional steps of forming a protective layer 61 (Fig. 9), selectively patterning protective layer 61 to form openings 62 and 63 (Fig. 9) and then removing or etching to form etched portion 66 (Fig. 10).

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The Examiner argues the Kinzer would have motivated one of ordinary skill in the art to have modified Tsoi et al. so that the etching back corresponds to the claimed invention. The Examiner refers to Figures 1-10 and columns 4-6, lines 4-68 of Kinzer. However, it is respectfully submitted that the teachings of Kinzer would not have motivated one of ordinary skill in the art to make the modifications of Tsoi et al. suggested by the Examiner.

It is presumed that the Examiner intended to highlight Figs. 8 and 9 of Kinzer. These figures, however, would not have motivated one of ordinary skill in the art to etch back a third insulating film to form a sidewall insulator and at the same time form a recess so as to penetrate the impurity region. More specifically, the step illustrated in Fig. 8 forms a sidewall insulator whereas a separate step illustrated in Fig. 9 forms a recess so as to penetrate an impurity region. See column 6, lines 6-18, which teach the steps associated with Fig. 8, and column 6, lines 19-26 which teach the subsequent anisotropic etch shown in Fig. 9.

Accordingly, even if one of ordinary skill in the art would have combined the teachings of Tsoi et al. and Kinzer, the combination does not teach or suggest the claimed etching step reproduced above. As such, the Examiner has failed to raise a *prima facie* rejection of the claims.

The Examiner argues that it would have been obvious to one of ordinary skill in the art to modify Tsoi et al. by incorporating the etching back of the third insulating film and forming a recess so as to penetrate the impurity region at the same time, "as taught by Kinzer," to reduce the number of mask steps. However, as noted above, the combined teachings of the references

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still do not teach or suggest forming a sidewall insulator and at the same time forming a recess so as to penetrate the impurity region.

The Examiner comments that there is no disclosure of either a critical nature of the claimed process or any other unexpected results arising therefrom. However, since the Examiner fails to raise a *prima facie* rejection of the claims, there is no requirement for such a showing of criticality.

Claim 15 was rejection under 35 USC §103(a) as being unpatentable over Tsoi et al. in view of Kinzer and further in view of Applicant's Admitted Prior Art (AAPA). Since claim 15 depends from claim 12 and AAPA fails to provide the teachings which Tsoi et al. and Kinzer lack, this rejection should be overcome for the reasons discussed above.

New claim 25 provides a step of etching back said third insulating film to form a side wall insulator of said third insulating film, . . . and form a recess of which a side wall is flush with a side wall of the side wall insulator and which is penetrating the impurity region, thereby forming a source region of the impurity region. The cited references fail to teach or suggest the features set forth in new claim 25.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Attachment: Amendment Transmittal